

When we are children our interests are directed by the influences of adult relations and the circumstances of our early lives. Our parents in particular as well as our playmates often have a determining influence on the course they take, but exterior events outside the family circle could also have an effect that may not be recognized until much later in life. Most children, almost as soon as they learn to talk, if provided with the means, express their visual impressions of the world around them by drawing. This world at first encompasses mother and father, sisters and brothers, the dog or cat, and the house they live in; later it includes the books they read or are read to them and today what they see on television. The subjects that especially obsess boys are space age warfare. But manual dexterity of which drawing is one expression is manifest early in playing with toys, building with blocks, and as skill develops assembling mechanical models. With some children and perhaps with all, if fundamental inherent attributes are fostered by parental interest and example, using simple material to make their own toys and other objects provides a basic creative satisfaction.

I have observed these influences and consequent developments in my own children and grandchildren but I am unable to point to any that could have determined the course of my life before the age of six. I am sure that the parental influences of a humanist mother and a scientifically minded father was strong. I have no recollection of having spent any time drawing imaginary pictures but very early I did get real pleasure from making things out of wood with my first tool a pocket knife. I was also, while still

quite young, attracted to the natural world, the first growing things of spring, and to birds, a fascination which ~~XXXX~~ later in my adult life became for many years a passionate preoccupation. All these interests were treated with sympathy and encouragement by my parents, especially by father with whom my sister and brothers and I would go for Sunday walks on Lake Michigan's shore and be told about the geological history of the Great Lakes, about the significance of fossil crinoids that could occasionally be found in the gravels of the beaches, and about how it all was tied together by evolutionary change.

My precocious interest in making things out of wood received strong support one Christmas when I was given a work bench with a vice and a chest full of tools. It was a day I can still remember; my surprise and overwhelming excitement when after Christmas dinner the doors to the parlor were opened, the lighted Christmas tree revealed in all its splendor ~~of glittering decoration~~ and I was introduced to the present that was to have such a profound and lasting effect in broadening the range of my opportunities for self expression.

Christmas was always a day of intense excitement, as I am sure it was for most middle class children. It started early Christmas morning when we went down stairs in our pajamas before breakfast to empty our stockings, Santa Claus was supposed to have filled while we slept, ~~that~~ ^{them} we had hung ^{the} the night before from the fire-place mantle piece in the living room we called the library because it was lined with book cases. The Christmas tree had been set up in the night and decorated by father and mother in the room across the front hall from the library called the parlor, a more formal room with a grand piano and an aeolian pipe organ that my father played.

The floor in the parlor was covered with several oriental rugs - Kazak, Tabriz, and Bokhara of moderate size leaving much polished wood in between, enhancing the formality of the room. The floor in the library on the other hand was almost completely covered by a thick red Chinese rug, figureless except for a decorated border in blue and black. The sliding doors to the parlor were kept closed all Christmas morning - a challenge to us children who would peek in through the cracks - because it was here where we would receive most of our presents after Christmas dinner. The one exception to this custom was the year I was given an electric train. It had been set up in the library and the tracks could be seen from the stairs into the front hall as we came down to open our stockings. The electric train was not a great success. Mechanical toys with their limited possibilities for operation and holding attention appeal more to fathers than sons. A child soon tires of an electric train on its circle of track; it offers no possibility for variation as a model railroad does for an older boy or an adult with the challenge for improvement and enlargement.

Somewhat Christmas morning had to be gotten through, so to ease the strain we were sent out to play in the snow or to go coasting or taken for a walk on the beach. The reason for delaying the distribution of presents until Christmas afternoon was that granny and grandfather, mother's parents, and aunt Peggy her sister came out late in the morning for Christmas dinner on the Northwestern Railroad. We loved them and they helped reduce the tension but nevertheless our excitement and impatience continued to grow throughout the meal from a cream soup, roast turkey with chestnut stuffing, mashed sweet potatoes baked with brown sugar, turnips, cranberry jelly and salad to mince and pumpkin pies with ice cream.

After all that, around one-thirty or two o'clock in the afternoon the most important event of the day began when father opened the parlor doors.

The carpenters bench was installed in my bedroom where it soon became the source of much litter and shavings on account of which seldom were there complaints from higher up. Eventually the hand tools were supplimented by an electric scroll saw and from bass wood purchased at the local lumber yard I made among other things nest boxes for house wrens and toy boats some with propellers driven by rubber bands. In this receptive period of my early life new experiences and knowledge in retrospect cannot be placed in strictly chronological order. They flash into my memory in kaleidoscopic disarray; one thought superseding another in no logical sequence mysteriously recalled from deep recesses in the brain. Visions of my tool bench tucked in a corner of my bedroom, disorder all about, suddenly is veiled by thoughts of Halloween pranks, of the time my friends planned to raid my father's fruit celler which I had to circumvent, or the first airoplane I saw, a red biplane, flying low over Lake Michigan. No doubt physiological processes connect these random memories but the vast network of routes defies resolution. When one gives in to uncontrolled thinking it is called day dreaming and when one tries to direct his thoughts they often become channelized into recent events and contact with the past is closed.

Another event in my boyhood which had implications for the future was the acquisition of a chemistry set at the same time I was given Everyman's Chemistry by Hendrick and elected Mr. Boyle's highschool chemistry course. To suppliment the chemicals in the set I purchased at a chemical supply store in Chicago more effective reagents: concentrated nitric and sulphuric acids ~~and chemicals.~~

and chemicals that react energetically. Stimulated by Fourth of July fireworks, to which all boys are compulsively attracted, I made from potassium nitrate, carbon and sulphur a variety of gun powder-like explosive but failed fortunately to make nitro-glycerine. An explosive device that I made with my friends from simple materials consisted of a hollow stem key^{and} a nail to fit snugly into the hollow joined by a loop of string and the heads of common kitchen matches. Scrapings from the match heads are packed into the hollow key and the nail is wedged in against them. When the assembly is swung by the string to strike the nail against a hard surface the blow will cause the match heads to explode with a loud bang. The device can also be made into a miniature bomb by attaching a ribbon to the head of the key so that when it is thrown up in the air it will land on the nail and detonate. Below my window a flight of stairs led to an exterior entrance to the basement. The laundry window opened onto the stairway and the laundry tubs were directly under the window inside. When I dropped my key bomb onto the cellar stairs it exploded in front of the laundry window frightening the Swedish laundress who protested with inarticulate expletives. Later she reproved me more gently, "You such a nice boy; why you so awfully?"

Experiments with chemicals, to find out what would happen if two substances were mixed together, to see if what was supposed to happen actually did take place, to satisfy that curiosity became for me a compelling impulse. Reactions of the most vigorous kind were the most challenging and irresistible to try. I experimented with potassium perchlorate and permanganate and with metallic sodium which violently reacts with water to produce hydrogen. I discovered that perchlorates mixed with sugar are explosive. That I never

started a fire or had a bad accident can probably be attributed to good luck.

One of the phenomena I played with was the differential affinity for oxygen of metals: thus aluminum can capture the oxygen from iron oxide or rust under proper conditions. The phenomenon was used in the thermit process for welding railroad rails. A mixture of powdered aluminum and iron oxide in a graphite crucible can be ignited with magnesium ribbon and the reaction will proceed rapidly, at several thousand degrees Fahrenheit with a fountain of incandescent sparks, to completion when the aluminum has combined with the oxygen of the iron oxide leaving a puddle of molten iron in the bottom of the crucible. In my room the display was spectacular; it burned holes in my rug and charred spots on the painted floor but I never set anything on fire and I am sure my parents knew nothing about these pyrotechnic experiments.

My activities weren't devoted solely to solitary pursuits in my room; I did have friends who participated in some of the more spectacular experiments and with whom I played out of doors. The community of Hubbard Woods, originally called Lakeside, ~~was~~ renamed for Gordon Salt^oinstall Hubbard an early Chicago settler was the northern part of the village of Winnetka, not politically independent although it did rate its own station on the Northwestern Railroad on which my father commuted to Chicago. The part of Hubbard Woods where my friends and I lived was on the lake front east of the tracks. West of the tracks was the business district with its stores, public buildings, and schools and farther west the great Skokie, the indian name for marsh, where we bicycled out to to hunt for marsh bird's nests. Hubbard Woods east of the tracks was divided into several sections by a branching ravine, the course

of a stream before the area was settled that flowed into Lake Michigan and subsequently diverted into a storm sewer. The ravine became the route for Sheridan Road the principal northern highway out of Chicago until it was superseded by a less winding route west of the tracks. Where Sheridan Road entered the ravine it was the only hill within the entire northern suburban area of Chicago and in winter became a popular coasting hill for both children and adults. The house my father built was east of the ravine on a bluff overlooking the lake whereas most of my friends lived on its west side. The Wallings and Fishers were directly across and the Nelsons farther west on a side branch of the ravine, the only part without a road in it and for that reason the place where we played more than anywhere else. South of where the ravine cut through the bluff onto the shore of Lake Michigan were the homes of the Matz, the Merrills, and the Carpenters in that order. Since there were no Matz boys that home remained always a mystery. An older Merrill boy/^{Billy}was the bully of the neighborhood. I was very afraid of him because he was always threatening to beat me up and when my mother urged me to stand up to him I am told I replied that would be dangerous. Fairbank Carpenter was just my age and became my very best friend up until college days.

Curtis Nelson the third in a family of four children with an older brother and an older and younger sister was a constant member of our group. His brother Thatcher, aloof and superior, we seldom saw and looked upon with awe. Curtis's older sister Lois, friend of my sister Nancy, entered little into our daily lives except in my case years later when by chance circumstances she became an important factor in events that influenced the course of my life. Phoebe his younger sister was the indirect cause of much unhappiness for hi

him. Discipline in the Nelson family, particularly as it pertained to Curtis, was strictly enforced by a martinet of a governess, Miss Ridgeway. Mrs. Nelson, who from the perspective of Curtis's friends, seemed never to be involved with the regulation of her children's lives, had presumably delegated authority for their upbringing to Miss Ridgeway who would summon Curtis home by telephone from in whatever friend's home he happened to be playing - he was required always to keep her informed where he was - most frequently on the pretext that Phoebe was alone and he must come home to play with her. After answering the telephone Curtis ~~would~~ in despair would explain, "Miss Ridgeway says I must come home to play with Phoebe."

Another ^{game} ~~game~~ we played similar to ~~the game~~ ^{our games} in the ravine behind the Nelson house was a game of tag on the roof of our barn. The barn built at the begin~~ning~~ing of the century at the same time as the house was planned for horses and carriages. It was a brick building with second floor living quarters for a coachman and his family. A one story ell for the horse stalls extended at right angles from the main carriage area and opened onto a high brick wall enclosed paddock that could be entered from the outside through a double door gate wide enough for carriages. I do not remember the carriage period because it was superseded within a few years after I was born by the motor age. The barn was converted into a garage and the horse stalls became obsolete and vacant. The cedar shingled pitched roofs of this complex building ended at four inch high ~~gutters~~ raised gutters beyond which from the ^{main} ~~two story~~ building a shed roof of lesser steep pitch extended into the paddock. A large dormer window projected from the main roof above the shed. With our school friends

my brother Edward and I discovered that the roofs of the barn were a wonderful place to play tag. We could chase one another around the dormer window, slide down onto the gutter and run around on the top of the paddock wall without ever having to come to the ground. How long this sport would have gone unnoticed by our parents is a matter of speculation although sooner or later ^{inevitably} ~~it would~~ ^{they would have learned about it.} ~~have been brought to their attention as it was by an unfortunate~~ ^{Maybe} accident. The game was brought to an end finally one day after school when Edward slid over the gutter on the horse stall ell and landed feet first in a trash barrel. He went howling into the house more frightened than hurt and when father came home that evening and was told about it he ^{told} ~~ordered~~ ^{in no unmistakable terms} ~~us angrily~~ never again to play on the roof because we would damage the shingles.

One day I saw an advertizment for a small wood turning lathe operated by a treddle similar to the first Singer sewing machines. I was determined to have it but the price was beyond what my modest allowance could finance even with most rigid restraint on all other spending so I perswaded Curtis who I knew was a soft touch to go in with me for it. When it arrived I installed it in my room where Curtis's opportunity to use it was very limited. Eventually his parents found out about the deal and insisted that the lathe be more equitably shared, half time with Curtis. This would obviously be difficult to arrange and greatly to my disadvantage without being of benefit to him because I knew I had persuaded him to join me in a ^{foreign to his liking} deal ~~that didn't interest him~~. The predicament was ultimately resolved when my shocked parents learned how I had taken advantage of a friend, scolded me for my averice, reimbursed him and reduced my allowance. Curtis Nelson's childhood overwhelmed by a harsh upbringing that created feelings of guilt and inferiority was not a happy time for him and was reflected in his later life. He went to Harvard

and medical school and while under psychotherapy apparently suffering from ^{unbearable} ~~unsupportable~~ depression jumped to his death from his hospital window.

Willoughby Walling, my brother Edward's age, younger than most of my other friends often went tagging along with us and in trying to keep up would make a nuisance of himself to which we older boys reacted by teasing him, sometimes unmercifully. He was especially eager to participate in our experiments with chemicals so one day I proposed that we play a trick on him with the reagents in my chemistry set. Hydrogen sulfide gas that smells like rotten eggs is produced when iron sulfide is mixed with hydrochloric acid. ~~On~~ but as a cover for our ~~conspiratorial mission~~ ^{on a nefarious} ~~but~~ On the friendly pretext of inviting Willoughby to play ~~with us~~ we went to see him one afternoon. I had brought with me a small bottle of dilute hydrochloric acid and some lumps of ferric sulfide. As we were leaving his room I managed undetected to secrete the hydrogen sulfide generator above the door inside Willoughby's closet. Not until the next day did we find out how successful our prank had been. Willoughby eventually caught on because of the stink to what we had been up to but it took him a long time before he located its source, revealed by the brown stained plaster above the door. No parental wrath ensued from this escapade probably because the amount of gas produced was small and it was taken good-naturedly by the victim. Innocent and gullible though Willoughby was as a young boy he grew up to be the most adventurous of us all, and the inspiration for exploits I undertook years later. Probably disillusioned by the standards of success in conventional society he dropped out of Cornell to seek adventure in the west; became a migratory laborer, rode freights, and worked

worked in lumber camps but eventually returned to Cornell where he ~~obtained~~ obtained a degree in forestry.

Two houses north of the Walling's on the west side of Sheridan Road lived the ^{ie a} Vedar's. Melvin, the ^{oldest} ~~only~~ ^{ie a} Vedar boy, I got to know through our common interest in handicraft and because he brought some of the things he made to show off at school. I was tremendously impressed by his cleverness and ingenuity and no less envious of his having better and more expensive tools than mine.

I imitated everything he did and copied his inventions which irritated rather than flattered him. Melvin knew I was awed by his skill and took advantage of my subservience by adopting towards me a ^{haughty} patronizing and disdainfully superior attitude which became more than I could take when he told me I had no original ideas and that all I did was to copy him. After that I began to hate him and our friendship ended much to the relief of my friends who unanimously disliked him from the start.

As retribution we decided to punish him for his arrogance. I had become quite skillful with a lasso which was the instrument we chose for his humiliation. The plan was to invite him out in the evening and then to tie him up. In retrospect it was a cowardly, shamefully lynch mentality scheme but exactly how we proposed to carry it out was never clearly conceived. We did all - there were four of us in the conspiracy - go to his house after supper and entered through the kitchen door, which is the way I always went when we were on good terms, and asked for Melvin. The cook suspecting ^{evil} intent ~~something~~ ^{intentioned} ~~had~~ called Mrs. Vedar who confronted us on the back stairs with Melvin peering down from above and his father behind him. We were ordered to leave by Melvin's mother who told her husband to call Mr. Porter. On the way home we were ~~laughing at how Melvin had met~~

by my very angry father who
behind his mother when my father met us on Sheridan Road, ~~told us~~
~~all to go home and~~ ^{seized} and ordered us ^{all to go home}
~~and took my lasso, which I never saw again.~~ We all
suffered dire punishment, the least of which was curtailment of our
freedom to be out at night, when the other parents were told of our
disgraceful behavior.

We got into trouble on another occasion when we invaded
the DeWint's summer house for a place to play away from adult supervision.
The DeWint's place on the lake shore in Winnetka proper was a large
tract of land on which the house fronted on Sheridan Road and the
summer house stood farther back close to the beach almost out of
sight from the house. It was discovered during our explorations of
the shore in winter, and because of its isolated location, essentially
immune from invasion by trespassers, was unlocked. We played there
several times and although we never intentionally caused any damage
we did make quite a mess of the interior. Our activities were ultimately
discovered and we were made to pay for our depredations by giving a
Saturday to house cleaning. We were slowly learning that crime does
not pay.

For several years after father built his house the land to
the north on the same side of Sheridan Road remained a wild and
wooded area where we children played, picked wild flowers in the
spring, hepaticas and blood root I remember in particular, and wild
strawberries in summer. Then two houses were built and I remember
feeling resentful at the destruction of our secret places. There
were two girls in the Metler family that moved into the nearest house;
Marcella my sister's age and Barbara the same age as Edward. Their
father was a retired doctor. In the Fentress family in the second
house were three children, two girls and a younger boy. Mr. James
Fentress was an excentric, delightfully entertaining southerner,

whose relationship with his children was exceptionally sympathetic and understanding. The second girl Louise was in the age group of my brothers Edward and Fairfield with whom she and Barbara Metler became constant companions. Their play took place mostly at the Metler's and the Fentrees and evolved into a continuous game about an imaginary country they called EDFALOBaby combining the first two letters of each of their names.

Besides having a group of friends with whom serious disputes seldom arose and fights never occurred, we shared a few enemies, some more threatening than others by virtue of age and nationality. One lesser skirmish I had with a belligerent tease who persisted in calling me Idiot and dared me to fight him because he was sure I didn't have the guts to stand up to him. When I did during recess he turned his back after the first blow and his peck order standing sank to zero. A more persistent trouble maker was Paul Owsley whose house I rode past on my way to school. He would threaten to knock me off my bicycle and wash my face in the snow. He didn't desist from his bullying until he was threatened with a beating by an older boy. The most terrifying danger came from across the tracks in the person of Tony Montenaro, older and bigger than any of us, who must have felt that his self-esteem and social status required that he show those rich boys from the east side who was the better. One day near the railroad track on my way to school I was confronted by Tony. It was a frightening situation but fortunately the MacIlvaine boy who had protected me once before from being beaten up by Billy Merrill came along at that moment and was about to fight Tony on my behalf when Tony whipped out a knife. My aunt Frances, father's sister, on her way to the station saw the drama unfold and with great dignity and authority told Tony to put his knife away

saying that we don't fight with knives in this country. Tony rebuked and humiliated sulkily went away.

How I became a friend of Fairbank Carpenter I no longer remember but we soon became inseparable and I spent more time with him than with any of my other playmates. He derived ~~the~~ as much pleasure as I did from the untamed wild world. We explored the woods and the Skokie swamps and hunted for bird's nests together. It was with him that I discovered that witch-hazel blooms in the fall after the leaves have dropped. The inconspicuous flowers that grow on the ~~appear~~^{go} bare branches would appear unnoticed were it not for the four, ~~long narrow~~ narrow yellow petals that give each blossom a spidery appearance. ^Φ The east porch of my house was enclosed in winter with plate glass panels replaced by screens in the summer. Plate glass ^{was} ~~panels~~ a death trap for birds to whom the porch appeared to be an open space through which they could fly. As a warning that there was an invisible barrier pieces of paper were taped to the middle ^{panel} of each but in spite of this precaution occasionally a bird would break its neck by ~~fixing~~ against the glass. Sometimes we had the birds with the most colorful plumage mounted by a taxidermist in Chicago and sometimes father prepared skin specimens for me. Guns have a lethal fascination for boys because the temptation to take a shot at anything that moves is almost irresistible. Fairbank owned a beebe gun and on almost the first day after it was given to him - I believe it was a birthday present - we went hunting to try it out. It proved miraculously and shockingly efficient when Fairbank shot a sapsucker in his front yard. There we were with a dead bird, still warm, proof of callous wantonness that we could not ^{Carelessly} heartlessly discard, so we decided to ^{ask} ~~take~~ my father to skin it, telling him we had found it. During the skinning he found the lead pellet and not

suspecting us of being the killers said that the bird had been shot. I remember my uncomfortable feeling of guilt, not only for killing the bird, but for the deception we had practiced. That experience did not, however, end our hunting exploits which we were shamed into permanently giving up some days later. I had found a blue jay's nest in a bush at the foot of our drive on Sheridan Road. The female bird incubating her eggs was so fearless one could almost touch her. For some inexplicable reason Fairbank and I had the macabre urge to shoot her on her nest at close range. While we were taking aim a car came by and the driver seeing what we were up to stopped and gave us a terrific bawling out, ^{saying} that shooting birds was wrong and to shoot a bird on her nest utterly ^{disgraceful} ~~shameful~~, that we should be reported to our parents. That episode was the ray of truth that struck home, shamed ^{unacknowledged} us and much to our relief saved the bird's life. ~~After~~ From then on our interest in shooting ~~waxed~~ ^{to be an attractive sport} ceased except for sporadic target practice.

Before my father bought Great Spruce Head Island ~~in the~~ ^{Coast of} Penobscot Bay, Maine our summers were spent in different places; one summer with cousins of ~~my~~ father's in Peterboro, New Hampshire and another camping in the Canadian Rockies. Ever since his college days father had gone ~~to the~~ camping and exploring in the Rockies, at first with college friends and later with mother and their married friends before ^{old enough} when my sister and brothers and I were ~~born~~ ^{young} to accompany them. When my father was a young man the Canadian Rockies were ~~still~~ ^{still a} wild wilderness and ~~still largely~~ unmapped and the Canadian Pacific Railroad had not long been in operation. Father tells of the time he and his companions on their return to civilization, bearded and ^{carrying} ~~armed with~~ rifles, flagged down a Canadian Pacific passenger train. The terrified passengers were convinced that they were being held up by train robbers.

The first summer we were taken camping in the Canadian Rockies was at the beginning of my friendship with Fairbank. He was being sent to a boys camp in Wisconsin and wanted me to go with him and I was torn between spending a month with him ^{or with} father and mother and my brother and sister in the Rockies. I was permitted to make the choice myself but was urged to choose ^{the Canadian west} ~~camping~~ which fortunately I was wise enough to do. Fairbank was very upset and ~~wexperted~~ our friendship came close to perishing on that reef of dispute but when we both returned at summer's end all differences were forgotten. Due to Fairbank's diplomatic ~~nature~~ ^{In 1913} and nonaggressive nature we never had another serious dispute. /When our summers on our Maine island began ^{in 1913} the Carpenters had a summer place at Northeast Harbor on Mt. Desert Island. ~~I was permitted to invite Fairbank to visit me for several weeks and after that he came every summer very much as a member of the family.~~ I was the oldest boy in my family with three younger brothers Edward, Fairfield and John with whom I ^{shared} ~~had~~ less common interest than with boys my age which resulted in their developing a rapport in their play that excluded me. In recognition of this relationship and my need for a summer companion, ^{my parents} encouraged me to invite Fairbank to the Island for a month. After that first year he was invited every summer and became very much a member of the family.

Fairbank and I did every thing and went everywhere together. We each had Brownie cameras with which we photographed the most approachable birds, gulls and terns on grass covered islets where they nested in dense species segregated colonies. At first we were taken to these places on expeditions organized by adults and our subjects were ^{in crevices} nests of speckled eggs and the mottled gray downey young wedged for concealment and safety. With the acquisition of more sophisticated equipment, first Kodaks having faster shutter speeds and ultimately, as

we became more proficient, Graflex Cameras, the sine qua non for the naturalist. With these we spent hours at a time crowded into a tiny canvass blind that I had designed and mother had sewed together, photographing gulls in their crowded colonies and, the most appealing and exciting of all avian subjects, ospreys or fish hawks. In those years of our youth ospreys were very abundant along the coast of Maine. They built their bulky stick nests, some in trees, but the great majority on the ground on rocky ledges and treeless headlands. On ~~xxxxxxxx~~ Great Spruce Head Island where we lived only one of seven osprey nests was built in a tree; all the others were located around the periphery of the island on tidal islets or barren points of rock. At these places ^{ten feet from the nest after the eggs had hatched} we would set up our blind and crawl in with camera, sandwiches and a thermos of water. We never had to wait long for the birds to accept the blind as an inanimate addition to the environment and to return to brood and feed their young. One adult would keep watch at the nest, staring at the blind ~~and the eyes of the~~ with its camera eye ~~camera~~ while its mate is off fishing. ~~xxxx~~ Its return with a fish was always an exciting moment both for us in the blind and the birds outside accompanied always with enthusiastic piercing whistles by the mate on the nest.

Fairbank and I during those first years ~~in Maine~~ on the ^{were not attracted by} Island/the passerines, the song birds, of the Maine coast. ~~xxxxxxxxxxxxxx~~ ^{group} They were a mysterious and difficult to identify ~~group~~ ^{more} unlike the birds of woodland and prairie of the middle west we were familiar with. We knew a few songs, those of the hermit thrush, the song sparrow and the white-throats whistle, but the wood warblers were a ~~group~~ ^{too} confusing group whose songs and plumages were/difficult ~~to distinguish~~ for us to

distinguish
~~identify~~ without prolonged observation, ~~which~~ which we did not have the
patience to do. We found a few nests of these species and marveled
complexity
at the ~~beauty~~ and delicacy of their construction and the beauty of
tiny nestled
the/speckled eggs/within them. With our bulky equipment ~~there~~ it
was impossible to photograph them, least of all their creators. Not
until years later, following an abortive period of research in science,
with equipment especially adapted to the purpose did I return to
photograph the passerines, and then it was ^{to} the wood warblers in
particular that I devoted all my time in the spring of the year.

Public school years up through eighth grade were not a
very stimulating time for me; not until I took Mr. Boyle's chemistry
course in high school did I enjoy formal education which probably had
schools
something to do with the quality of teaching in Winnetka/before they
Made more progressive
educational system was reorganized. It must have been because of an ~~aware~~
by my parents
awareness/of this deficiency that I was sent to the private College
School in the next suburb, from which I was rescued by an attack of
Mr. Clark failed
appendicitis. The eighth grade athletic director/~~was defeated~~ in his
attempt to make an athlete of me. I remember him only as a big man
who wore a red knit pull-over, ^{In} ~~and~~ a conference with my mother about
my ~~deficient~~ athletic deficiencies, (in my presence) the details of which
but do remember the discussion his
I have no recollection, ~~but only~~ that ~~it~~ ended with comments on Charlie
early being widely talked about,
Chaplin ~~movie~~ whose/silent movies were/~~all the rage~~ that he couldn't
help laughing but kicked himself afterwards. The eighth grade music
teacher also despaired at my lack of ~~talent~~ musical talent and kept
me after school because I couldn't sing in tune. I was punished for
being what she called tone deaf, unable to sing the notes she struck
on the piano. In this case my mother, who was also tone deaf, intervened
in my behalf.

In New Trier High School the only courses I liked were
chemistry and geometry. Latin was my bete noire and I failed English

because I couldn't spell, an inability that threatened my education until I was admitted to ^{Harvard} college. After two years in high school my friend Fairbank was being sent to an eastern boarding school, Morristown School in New Jersey, for more intensive preparation for the college entrance examinations than was provided at New Trier, and of course I wanted to go there too and begged my father to send me. I had already passed my college examinations in chemistry and mathematics but because of my difficulty with English and a foreign language - German was the language I was most familiar with because my youngest brothers had a German governess - my parents finally agreed to enter me in Morristown. They probably realized that my chances for passing the other examinations would be enhanced by the special training ^{provided by} a boarding school ^{principal} the function of which was to prepare its students for college. ^{gentleman} The English teacher at Morristown, an elderly bearded ~~man~~ dressed always in a dark suit ^{was nicknamed} whom ~~we called~~ ^{in mockery of} the whistling deacon ^{manner of} for his sibilant/speech, dourly predicted I would never pass the English examination unless I learned to spell. But I did pass. The first year I lived in the upper school dormitory but the second year as a prerogative of our senior status I shared a room with Fairbank and another boy, Piran Edgerton, in a faculty house across the road from the school. Chapel was compulsory but bowing our heads during prayer was not, ~~and was the~~ a demonstration of religious independence adopted by a group of the students. Fairbank and I were able to pursue our photographic hobby at athletic events ^{for} which ^{we were granted} ~~gave us~~ special privileges during interscholastic games.

World War I was drawing to a close ^{in the} /autumn of 1918, my first year at Morristown, ^{at the same time} and ~~there was~~ a pandemic of influenza ~~that~~ took more lives than the war but had little effect on the school, ~~where~~ which was isolated from the outside world by the restriction of students to the

school grounds, cancellation of athletic events, and by sending us to the infirmary at the first signs of indisposition. ^{early in November} Nevertheless, on the first announcement of peace in Europe, that an armistice had been signed, the upper classmen were allowed to go into New York to participate in the celebration. As it turned out the rumor of peace was premature; ^{the} Armistice was not signed until a week later on November 11, the true Armistice Day, when a less spontaneous celebration took place which we were not permitted to witness. Times Square, the traditional center of New York City, the only place we ^{visited} ^{so} ~~went to~~, was jammed with people and soldiers and sailors on leave/that motor traffic was aimlessly milling about completely immobilized. My wallet was stolen. We had been instructed to be back in school early and returned by ferry to Hoboken and the Lakawara Railroad to Morristown.

I had to take Freshman English. Since I was registered in the Engineering
 School all my other courses were in sciences and mathematics. ~~expanding~~
 facility
 knowledge in a foreign language was required for graduation which I
 knowledge

fulfilled by passing the German reading/examination. As elective courses I took history and astronomy, the latter a great disappointment since I expected to learn about the latest discoveries regarding spiral nebulae and the formation of the moon, subjects on which father had talked at length. The course was devoted entirely to a description of the planetary orbits of our solar system. From photographs of the moon and from what was known about asteroids father proposed and wrote about what he called the boloid theory ^{of} ~~for~~ the formation of the moon. The craters on ^{he maintained} the moon ~~were~~ not of volcanic origin, as generally assumed at that time, but were caused by the impact of meteors and asteroids which were gradually swept up by the planets and satellites ^{during} ~~in~~ the formation of the solar system. According to father's theory all the planets should show evidence of this accretion process if only they could be seen at close range, as has now become possible ^{through unmanned space probes that} ~~and does~~ support his conjecture. ~~but failed~~ sought confirmation ~~by trying to obtain evidence in~~ from ~~the~~ ^{the} geography ~~of the earth but it~~ ^{the evidence} failed, with the exception of a few recent meteor craters, because ~~it~~ would have been obliterated by ~~all~~ ^{the} dynamic processes of weathering to which the surface of the earth has been subjected for millions of years, and also by the now recognized mobility of the earth's crust.

By the end of my junior year I realized that chemical engineering
for which
was not the field of science/I had originally held such high hopes,
that it was the chemistry of living organisms, biochemistry, not sterile
industrial processes, that attracted me. To continue my education
in that broader area of chemical science I decided I would have to go

to medical school and ~~to qualify~~ for admission to the Harvard Medical School a one year course in biology was required, which as an extra subject

I added my senior year.

entire and medical school
For ~~all~~ my undergraduate/years photography was a very minor
me

interest but with all that behind/and after I had begun seriously to
~~then~~ again
pursue scientific research ~~and~~ photography/become an important avocation.

I had been appointed to a minor teaching position in the Bacteriology Department under Dr. Hans Zinsser. A contemporary in the department, Victor Seastone, who had also recently obtained his MD, was an amateur musician and practiced photography on the side. He used the Leica invention camera, the 35mm German ~~invention~~ that revolutionized photo-journalism and many other fields of photography as well. I was so intrigued by his ingenuity in adapting the camera to innumerable purposes impossible with more bulky equipment that I ~~immediately~~ bought one and immediately began experimenting with it. Because of ~~its~~ the Leica's top shutter speed of 1/1000 second one of the first things I tried was to photograph the splash pattern produced by dripping water. The pictures were remarkably successful in so far as they dramatically recorded the sequence of events, ~~in~~ visually impossible, in a common phenomenon, but otherwise were no more than curiosities. I soon began to photograph more conventional ~~subjects~~ structural subjects, bridges and buildings around Boston and trees and details of ~~plants~~ flowering plants and barnacled rock on the coast of Maine during my short vacations. One of the subjects I was especially proud of was a close up of blue berries enlarged to the size of tennis balls. My return to photography as a hobby became known to friends of the family one of whom Curtis Nelson's older sister Lois Wheelwright, who lived in Cohasset, Massachusetts, invited me to dinner and suggested that I bring some of my photographs because another photographer of whom I had never heard, would be there. The other photographer was Ansel Adams/an acquaintance

~~whom I had never heard of~~
of her husband's/. After dinner I was asked to show my pictures which I did with a certain amount of self-satisfaction. Ansel Adams looked at them but said nothing and then showed his. That was a traumatic ~~experience~~ and embarrassing experience; I saw immediately how vastly superior his photographs were to mine and how little I knew about photography technically, or more generally what its potentials were for creative expression. The photograph of Ansel Adams that made the greatest impression on me and that I still remember from that day - I can recall none of the others - was his famous photograph of a frozen lake in the Sierra Nevadas. Sensing my embarrassment Ansel Adams tried to encourage me suggesting that my photographs could be ~~impr~~ improved by using a larger format camera and recommended a much publicized recent Eastman product that used $2\frac{1}{4} \times 3\frac{1}{4}$ film. Soon after that revelation I purchased a 9x12 centimeter Linhof.

Shortly after this experience I was introduced to Alfred Stieglitz by my brother Fairfield, who had settled in New York to pursue a career in painting. Stieglitz had introduced to America the works of several of the modern French ~~artists~~ ^{artists} ~~painters~~ ^{was first to} and/exhibited in his gallery An American Place painting by Americans now recognized as preeminent in their time. Among those ~~that~~ ^{who} influenced Fairfield most profoundly were ^{whose painting he saw for} the first time at An American Place. Stieglitz exhibited also ~~the~~ his own photographs and those of a selected group of photographers; the probable motive behind Fairfield's introducing me to him ^{was his hope} ~~the chance~~ that Stieglitz would be willing to look at ~~my~~ and constructively criticize my photographs.

Shortly thereafter ~~I~~ Stieglitz agreed to look at a group of my photographs. He treated me kindly, contrary to what I had been led to expect, but his comment were far from encouraging. He said they were all woolly but that it was not a matter of sharpness, a description

I never understood because woollyness implied only one thing to me and that was lack of sharpness. Photography, he added, requires a lot of hard work. I had the temerity to return in a year with more photographs when his remarks were again noncommittal and his advice to work harder.

probably in 1934

In the mean time/I had acquired the small Linhof view camera and with this instrument had photographed in Maine for several summers. the summer of In/1935 I went abroad with an Austrian graduate student whom I had gotten to know at Harvard. He was a refugee from Nazi Germany and see his fiance in Zurich went to ~~xxxxxxxxxxxxxxxxxxxx~~ Austria while I went to Munich but we planned to meet again in the Austrian Tyrol. This was before the Anschluss